Psychopathology and resident status – Comparing asylum seekers, refugees, illegal migrants, labor migrants, and residents

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Abstract: Purpose This study aimed to describe, compare, and predict mental health outcomes of different migrant groups and native residents in Switzerland. Subjects and methods Asylum seekers (n = 65); refugees holding permanent protection visas (n = 34); illegal migrants (n = 21); labor migrants (n = 26); and residents (n = 56) completed an assessment by questionnaire. Main outcome variables were symptoms of posttraumatic stress, anxiety and depression. It was tested whether resident status predicted psychopathology over and above the influence of control variables including social desirability, traumatic event types and post-migration resources. Results Asylum seekers (54.0%) and refugees (41.4%) fulfilled criteria of PTSD most frequently. Clinically relevant symptoms of anxiety and depression were most frequently reported by asylum seekers (84.6% and 63.1%, resp.) and illegal migrants (both 47.6%). Resident status contributed to psychopathology over and above the influence of control variables. Conclusions Overall, asylum seekers, refugees, and illegal migrants showed high psychiatric morbidity. Differences in resident status appear to be specifically associated with mental health outcomes. This association persists even when controlling for social desirability, post-migration resources and traumatic events. This emphasizes the importance of current socio-political living conditions for mental health, even with respect to the psychopathological sequelae of past traumatic experiences.

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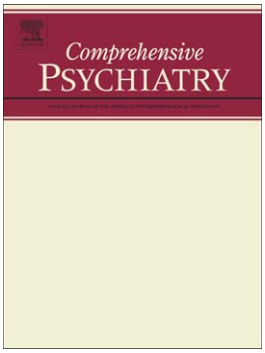

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Psychopathology and resident status – Comparing asylum seekers, refugees, illegal migrants, labor migrants, and residents

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Abstract

Purpose

This study aimed to describe, compare, and predict mental health outcomes of different migrant groups and native residents in Switzerland.

Subjects and methods

Asylum seekers (n = 65); refugees holding permanent protection visas (n = 34); illegal migrants (n = 21); labor migrants (n=26); and residents (n = 56) completed an assessment by questionnaire. Main outcome variables were symptoms of posttraumatic stress, anxiety and depression. It was tested whether resident status predicted psychopathology over and above the influence of control variables including social desirability, traumatic event types and post-migration resources.

Results

Asylum seekers (54.0%) and refugees (41.4%) fulfilled criteria of PTSD most frequently. Clinically relevant symptoms of anxiety and depression were most frequently reported by asylum seekers (84.6% and 63.1%, resp.) and illegal migrants (both 47.6%). Resident status contributed to psychopathology over and above the influence of control variables.

Conclusions

Overall, asylum seekers, refugees, and illegal migrants showed high psychiatric morbidity. Differences in resident status appear to be specifically associated with mental health outcomes. This association persists even when controlling for social desirability, post-migration resources and traumatic events. This emphasizes the

importance of current socio-political living conditions for mental health, even with respect to the psychopathological sequelae of past traumatic experiences.

Keywords: migrants, PTSD, depressive symptoms, anxiety

Introduction

Generally speaking, the term 'migrant' applies to all persons having left their home country either due to 'push' factors in the country of origin (i.e. asylum seekers and refugees; 9) or due to 'pull' factors of the immigration country (i.e. economic incentives, as in the case of labor migrants). Illegal migrants may be found in both groups. As Carta et al. (3) state, it is not possible to consider migrants as one homogeneous group, as conditions of migration differ widely, e.g. with regard to motivation for migration, distance from home and residence status.

With respect to migrants' mental health, high rates of psychiatric morbidity and mental health problems have been consistently reported. Asylum seekers and refugees in particular were found to suffer from symptoms of posttraumatic stress, depression and anxiety (e.g. 8, 12, 22). Several studies report associations of psychopathology not only with traumatic experiences prior to migration but also with the living situation in exile (13, 20, 22). Less is known about the mental health of labor migrants and illegal migrants. According to a recent meta-analysis (14), labor migrants appear to suffer less depression and anxiety as compared to refugees, but the authors point out that many of the included studies did not consider the duration of stay in the immigrant nation, which may contribute to variations in symptoms.

Regarding illegal migrants, a lack of knowledge about their mental health is reported (25).

Whereas isolated comparisons of different migrant groups have been conducted, these results cannot be merged into an overall picture of migrant mental health: Comparisons between different studies are hindered by methodological differences as well as inequalities in socio-political and economical characteristics of immigrant nations (14, 25). There is a lack of studies comparing the mental health of different groups of migrants including illegal migrants to that of residents and identifying different migrant conditions specifically associated with mental health problems. Moreover, existing studies are frequently limited by methodological shortcomings such as disregard of length of residency in the immigrant nation or failure to consider differential exposure to violence and other traumatic events in the nation of origin (14).

Aims of the study

This study aimed to describe, compare, and predict mental health outcomes in four different migrant groups and in residents in Switzerland. For the assessment of mental health, a multifaceted approach considering general as well as trauma-specific markers of psychopathology was chosen. In order to overcome shortcomings of previous studies, variables such as length of stay in the receiving country or post-migration resources, trauma history, and potentially confounding variables such as social desirability were considered.

Material and methods

Participants and procedure

Five groups of subjects residing in the Swiss canton of Zurich were recruited for assessment: (1) Asylum seekers (AS; n = 65) still waiting for their claim to be processed and living in asylum centers at the time of assessment; (2) refugees (RE; n = 34) whose claims for asylum had been accepted and who now held permanent resident visas; (3) illegal migrants (IM; n = 21) having entered Switzerland without visas and living in illegality at the time of assessment. Former asylum seekers whose claims had been rejected and who were now living in illegality were excluded from this sample, as were illegal migrants working as dancers or sex workers due to possible trafficking and hence involuntary immigration; (4) labor migrants (LM; n = 26) having come to Switzerland for work with pre-issued visas. In order to enable certain comparability with the other samples, German native speakers were excluded from this sample, as were subjects holding academic positions; and (5) Swiss residents (SR; n = 56) without a migrant history, i.e. with at least third-generation residency in Switzerland.

AS were randomly drawn from the national register of adult asylum seekers in Switzerland and approached by asylum center staff with the request to participate in our study. The participation rate was 67.7%. RE were recruited with the help of various refugee organizations in Switzerland, with a response rate of 68.0%. IM were approached during a two-week occupation of a church in Zurich where illegal migrants and their supporters were claiming better treatment for non-visa holders. The participation rate in IM was 77.8%. LM and SR were recruited by migrant

organizations and direct personal recruitment in public, with a response rate of 70.3% and 74.7%, respectively. Assessments took place between August 2008 and April 2009. The study protocol was approved by the ethics committee of the canton of Zurich.

All participants completed a self-rating questionnaire of about 40 minutes in length. Using established translation procedures including back-translation (2), questionnaires were translated into eleven of the languages most frequently spoken by migrants in Switzerland. Provided languages were Albanian (n = 11), Arabic (n = 19), Bosnian/Serbian/Croatian (n = 9), English (n = 10), Farsi (n = 18), French (n = 8), Kurdish (n = 13), Russian (n = 1), Tamil (n = 4), Turkish (n = 6), Spanish (n = 9), and German (n = 82). Two subjects spoke neither German nor any of the provided languages; i.e. Chinese (n = 1) and Tibetan (n = 1). For these subjects, interpreters translated the questionnaire items into their native languages on-site.

AS were visited at asylum homes and IM at the occupied church. Instructions for these subjects were issued by a licensed clinical psychologist. Where necessary, interpreters assisted during the assessment (61.5% for AS and 23.8% for IM). RE, LM and SR were asked to fill in the questionnaires at home and return them by mail. Postpaid return envelopes were issued to these participants. Subjects did not receive any financial compensation for their participation.

Instruments

The demographic variables assessed included age, gender, marital status, level of education and region of origin. Potentially traumatic experiences pre-migration (23 items) were assessed using the first sections of the Harvard Trauma Questionnaire

(HTQ; 15) and the Posttraumatic Diagnostic Scale (PDS; 5). Both instruments are widely used in research with refugees (e.g. 16, 23). We used both trauma lists in order to assess the widest possible range of traumatic experiences. To avoid repetition, we removed the seven overlapping items from the HTQ. Only traumatic events experienced or witnessed by the respondents themselves were considered for analysis.

Section III of the PDS (5) was used to measure symptom severity of posttraumatic stress disorder (PTSD). The 17 items in this section assess posttraumatic stress symptoms experienced in the month prior to assessment. Items are rated on a 4-point scale, and sum scores range from 0 to 51. A probable diagnosis of PTSD was established using an algorithm (5) that requires at least one symptom of re-experiencing, three of avoidance, and two of hyperarousal. The PDS has demonstrated good psychometric properties (6).

The Hopkins Symptom Checklist-25 (HSCL-25; 15) was used to measure symptoms of anxiety and depression. This checklist was developed for use in refugee populations. It comprises 10 anxiety and 15 depression items scored on a 4-point scale. Mean scores range from 0 to 4. It is common to use a cut-off score of 1.75 for both scales as an indication of symptoms equivalent to an anxiety or depressive disorder. The instrument has been shown to have good psychometric properties (18).

Post-migration resources were assessed using an index calculated specifically for this study. Originally, a list of 15 items assessing different aspects of the post-migration living situation had been generated. Items were based on Heckmann and Schnapper's (7) integration concept, which comprises structural, cultural, interactive and identificational integration of migrants. In order to pool the most significant post-migration factors out of this original list, we included items with the highest item-total correlation, yielding a final list of six items with an internal consistency of $\alpha = .72$.

These six items cover the areas of work satisfaction, social contacts outside of the family, social contacts with Swiss citizens, leisure activities, news consumption, and German proficiency. Individuals with high vs. low post-migration resources were differentiated by a median split on the resulting scale.

To assess social desirability of responses, we used the Marlowe-Crowne Social Desirability Scale Short Form X1 (4). Its seven items yield a sum score ranging from one to seven points. In analogy to the original extensive version of this instrument, we defined a cut-off score of four points.

Data analysis

Data were analyzed using IBM SPSS Version 19.0. Kolmogorov-Smirnov tests were used to analyze whether the interval data were normally distributed. Except for number of traumatic event types, none of the data were normally distributed. Chi-square and Fisher's exact tests were calculated for between-group comparisons for nominal data. Kruskal-Wallis H-Tests with post-hoc Mann-Whitney U-tests were conducted for non-parametric group comparisons, and ANOVAs with post-hoc paired samples t-tests for parametric comparisons (number of traumatic event types). Associations between mental health outcomes and pre- and post-migration factors were tested by Chi-square (dichotomous variables) and Spearman coefficients (rank data).

Three stepwise logistic regression analyses were used to test for associations between predictor variables and mental health outcomes (probable diagnosis of PTSD, clinically relevant symptoms of depression and anxiety). After testing for bivariate associations of mental health outcomes with all assessed socio-demographic, pre- and post-migration variables, only factors showing significant associations with

at least one mental health outcome were included in the regression models. Accordingly, social desirability, number of traumatic event types, post-migration resources and residence status were entered in this order into four different steps of the regression models. Residential status (asylum seeker, refugee, illegal, labor migrant, Swiss resident) was entered as an indicator contrast into the regression analyses. Accordingly, the effect of each of the four categories referring to migrants was compared to the effect of the Swiss residency category.

With respect to several measures, missing values were detected. Overall missing rates were 6.0% for PTSD, 1.9% for depression and 1.5% for anxiety. For post-migratory resources and social desirability, missing rates were 2.0% and 3.0%, respectively. The 12 missing values for PTSD were distributed evenly across subsamples. Nine of these 12 missing values resulted from participants not completing any of the PDS section III items. Rather than imputing PTSD values based on information from other variables, participants with missing values were excluded per analysis. As missingness for most variables was low and missing PTSD values were distributed evenly across subsamples, we do not expect strongly biased results due to missing data.

Results

Demographic characteristics

Demographic variables are summarized in Table 1. 52.0% of all participants were females, without between-group differences. About half of the participants were married, with RE being married more frequently than AS, IM and SR. AS were less frequently employed than all other groups and SR more frequently. RE, IM and LM

did not differ in employment status. The mean length of education was 10.8 years, without significant between-group differences. AS and RE more frequently originated from Asia than did the other groups, IM more frequently from South America, and LM more frequently from Europe. Among migrants, length of residency in Switzerland ranged from less than one year to 36 years. AS and IM had shorter residency than RE and LM. 54.1% of the non-residents had family members living in Switzerland, without significant differences between samples.

Post-migration resources and social desirability

Fewer AS and IM were indexed as having high post-migration resources as compared to RE and LM (Table 1). Fewer RE were categorized as having high resources as compared to the LM subgroup, who, in turn, did not differ significantly from SR.

Rates of high social desirability for the migrant groups ranged from 46.2% to 54.5% without significant differences. With 24.1%, Swiss residents showed significantly less frequent high social desirability as compared to all migrant groups.

Traumatic event types

The numbers of traumatic event types are reported in Table 1. With a mean of 8.4 (SD = 5.5) event types, AS reported the highest number of lifetime potentially traumatic event types. The difference between numbers of traumatic events for RE and AS approached significance ($t = 1.83$, $df = 97$, $p = .070$). AS reported more experienced traumatic event types than IM, LM and SR. RE reported significantly more event types than LM and SR. IM, LM and SR did not differ in the number of reported traumatic event types.

Mental health

Findings on mental health are presented in Table 2. AS showed a much higher rate of probable PTSD diagnoses as compared to IM, LM, and SR. RE also had more probable PTSD diagnoses as compared to IM and SR, but not compared to LM. Duration of stay did not correlate with the total symptom score of the PDS for any of the samples.

AS reported a significantly higher frequency of clinically relevant symptoms of depression than all other samples. Rates did not differ between RE and IM. These samples had higher rates than LM and SR. LM and SR did not differ regarding depression. No associations were found with duration of stay for any of the samples.

Rates of clinically relevant anxiety were highest for AS and IM, without significant differences between the two samples. Rates for AS were higher than for RE. AS, RE and IM reported more clinically relevant anxiety than LM and SR. LM and SR did not differ in this respect. Only for RE was a longer duration of stay associated with higher levels of anxiety ($r = .40$, $p = .021$).

Identification of factors associated with mental health outcomes

Of all socio-demographic, pre- and post-migration factors assessed, only social desirability ($X^2 = 4.51$, $df = 1$, $p = .034$ for depressive symptoms), post-migration resources ($X^2 = 14.63$, $df = 1$, $p = .000$ for PTSD; $X^2 = 31.46$, $df = 1$, $p = .000$ for depressive symptoms; and $X^2 = 16.53$, $df = 1$, $p = .000$ for anxiety), potentially traumatic events ($X^2 = 53.86$, $df = 16$, $p = .000$ for PTSD; $X^2 = 55.74$, $df = 16$, $p = .000$ for depressive symptoms; and $X^2 = 45.92$, $df = 16$, $p = .000$ for anxiety) and

resident status (X^2 = 38.92, df = 4, p = .000 for PTSD; X^2 = 75.06, df = 4, p = .000 for depressive symptoms; and X^2 = 38.31, df = 4, p = .000 for anxiety) were associated with mental health outcome. These were entered into three stepwise logistic regression analyses to test for associations with probable diagnoses of PTSD and clinically relevant symptoms of depression and anxiety (Table 3).

Social desirability did not contribute significantly to caseness for any of the three outcome criteria. The number of traumatic event types experienced predicted logistic odds for all three outcomes. Post-migration resources did not contribute additionally to caseness of any outcomes. In comparison to SR as indicator sample, AS and RE membership contributed to probable PTSD. AS, IM and RE membership contributed to clinically relevant symptoms of depression; and AS, IM and RE membership to clinically relevant anxiety. Logistic likelihood was explained at 38.9% for probable PTSD, 50.2% for clinically relevant symptoms of depression and 31.3% for clinically relevant anxiety. Post-hoc Hosmer-Lemeshow chi-square test for the final warranty of the three models yielded all models with sufficient predictive value (X^2 = 6.78, df = 7, p = .453 for PTSD; X^2 = 10.55, df = 8, p = .228 for depressive symptoms; and X^2 = 8.16, df = 7, p = .318 for anxiety).

Discussion

This study described psychopathological outcomes and their predictors in four different migrant groups and Swiss residents. In order to overcome shortcomings of previous research, all migrant groups were assessed simultaneously in the scope of the same study. Moreover, migrant groups were included who had rarely been examined up to this point (i.e. illegal migrants and labor migrants). Trauma-specific as well as

trauma-unspecific psychopathology was assessed, and factors such as length of residency in the immigration country and social desirability were considered.

The results of this study clearly indicate alarmingly high psychiatric morbidity in asylum seekers, refugees and illegal migrants, with resident status strongly influencing mental health outcomes.

A crucial question regarding the validity of the presented results refers to the representativeness of the recruited subsamples. The sample of asylum seekers can be considered to be representative of the population of adult asylum seekers in Switzerland during the assessment period. For the other samples, a lack of sampling frames and economic impracticality made it impossible to recruit random samples. Justified concerns have been raised around selection bias in non-probability sampling (24). In practice, most research studies with forced migrants employed some form of non-probability sampling (24), and only a few utilized pre-existing data sources such as immigration statistics. However, although representativeness cannot be ensured by our sampling methods, several findings provide evidence against strong sample biases. For example, it was to be expected that asylum seekers would be less frequently employed than other migrant groups, since they are not issued with work visas until later on in the asylum procedure and encounter difficulties finding employment even after receiving permission to work. Moreover, differences in regions of origin reflect current streams of refugees and labor migrants: Whereas asylum seekers and refugees frequently originated from countries which are affected by civil war or political oppression, labor migrants and illegal migrants more often originated from economically insecure regions. The sample of Swiss residents is comparable to the Swiss population in the year of assessment concerning statistics on gender distribution, marriage, employment rate and number of children (26).

Additionally, asylum seekers and illegal migrants reported much fewer post-migration resources than refugees and labor migrants. This finding is well in line with our expectations: Social isolation, poor German proficiency and lack of leisure activities may well be a result of unemployment, financial strains and the marginalized position in society (restricted access to supportive institutions) with which asylum seekers and illegal migrants are usually confronted. With respect to social desirability, all migrant groups showed more desirable response tendencies than did the resident group. There is a lack of studies on social desirability in migrants, but clinical observations confirm the finding that migrant patients tend to react to their perceived pressure to adjust to local culture and customs with elevated social desirability. Based on findings such as those mentioned above, one can assume that the recruited subsamples do not differ systematically from the populations which they are representing.

There are, however, a number of further limitations which need to be considered for any interpretation of the results. Subsamples differed in size and were rather small. For this reason, we refrained from Bonferroni corrections. Study results are also limited by the cross-sectional design, which does not allow for causal implications of results, as well as by the exclusive use of self-report measures. Lastly, the validity of the created index of post-migration resources has not previously been assessed.

Notwithstanding these limitations, the present study found strongly increased psychiatric morbidity in asylum seekers, refugees and illegal migrants as compared to labor migrants and residents. This difference was consistent across trauma-specific as well as trauma-unspecific symptoms. However, groups with high symptom levels showed specific patterns: Whereas asylum seekers showed high overall psychiatric morbidity, refugees showed increased symptoms of PTSD and depression, but not

anxiety. And illegal migrants showed increased symptoms of depression and anxiety, but not PTSD.

Increased psychiatric morbidity in asylum seekers has been confirmed in previous studies (12, 22). The finding that refugees did not show elevated incidences of clinically relevant levels of anxiety fits well with the previously noted decline in psychopathological symptoms in asylum seekers after they have been accepted as refugees (23). However, symptoms of posttraumatic stress disorder were not lower in accepted refugees than in asylum seekers. This finding indicates that trauma-related symptoms may persist if left untreated even if living conditions improve after having been granted permanent residency. The low rates of posttraumatic stress in illegal migrants may indicate that these individuals may rather have left their country of origin due to 'pull' factors than to 'push' factors. However, the strongly increased rates of anxiety indicate high distress, which is likely to be caused by the unprotected legal situation to which illegal migrants are subjected.

None of the assessed socio-demographic variables were associated with mental health outcomes. Other studies have found poorer mental health in asylum seekers with a longer length of stay in the receiving country (e.g. 11), an association which was not replicated in our sample. One possible explanation for this finding relates to the relatively short durations of stay in our sample of asylum seekers.

Even though social desirability was bivariately associated with mental health, it did not contribute to caseness of probable PTSD, clinically relevant depression or anxiety in multivariate analyses. This implies that even though migrants tended to provide more socially desirable responses than residents, their responses on mental health were not contorted by their response tendencies. Likewise, post-migration resources were found to offer no contribution to mental health outcomes in

multivariate analyses. While several large-scaled studies found associations between post-migration living difficulties and mental health status (e.g. 17), findings on post-migration resources such as social support or language proficiency are inconsistent, one possible explanation being a declining influence of resources over the course of time after migration (21).

As has been established in previous studies (19), the number of traumatic event types experienced predicted probable PTSD, but also clinically significant symptoms of depression and anxiety. Over and above the associations with traumatic events, residence status was strongly associated with all mental health outcomes. Living as an asylum seeker or refugee meant having the highest odds of suffering from probable PTSD; and living as an asylum seeker, illegal migrant or refugee meant having the highest odds of suffering from clinically relevant symptoms of depression and anxiety. The association between mental health and a permanent versus temporary visa status has been previously confirmed (17). However, the fact that all of the most frequently observed psychiatric syndromes, including trauma-related symptoms of PTSD, are associated with resident status over and above the associations with traumatic events is a surprisingly consistent finding in this study.

These results indicate that the pathological effect of trauma is not comprehensively determined by the traumatic experiences encountered in the country of origin. Rather, successful recovery from traumatic experiences may depend on the social, political and economic conditions in the receiving country. In this sense, our findings support the concept of sequential traumatization which was first introduced by Keilson (10) and later elaborated by Becker (1). In his follow-up study on Jewish war orphans, Keilson found that the course of the postwar period with its hardships had a stronger impact on future health than previous sequences in the traumatic

process. Our findings support the assumption that the social, political and economic conditions of the receiving country moderate the effect of previous traumatization in the country of origin on mental health in migrants.

In conclusion, the socio-political living conditions which are offered to asylum seekers, refugees and illegal migrants appear to be linked to mental health outcomes. At the same time, some of these groups can be considered especially vulnerable due to pre-existing burdens such as frequent traumatic experiences. Future research should identify legal, social, political and economic micro-processes mediating between residence status and mental health. Future efforts should aim at turning migration into a process which, instead of worsening preexisting problems, enables individuals to successfully cope with the challenges of their migration. Until this is accomplished, it is vital that individuals suffering from psychopathological strain should be granted access to health services including psychiatric screening and treatment independently of their resident status.

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Table 1 - Demographic characteristics and psychosocial variables

Characteristic	Groups					Overall group comparisons	Significant between-group differences
	AS (n = 65)	RE (n = 34)	IM (n = 21)	LM (n = 26)	SR (n = 56)		
Female gender, n (%)	27 (41.5)	22 (64.7)	10 (47.6)	15 (57.7)	31 (55.4)	ns	
Missing values	0	0	0	0	0		
Age in years, M (SD)	33.7 (9.8)	34.8 (10.3)	37.8 (10.2)	39.0 (13.5)	39.4 (13.8)	ns	
Missing values	1	0	0	0	0		
Married, n (%)	27 (41.5)	25 (73.5)	8 (38.1)	15 (57.7)	26 (46.4)	$X^2 = 11.12$, $p = .025$	AS vs. RE** RE vs. IM/SR*
Missing values	1	0	0	0	0		
Employed, n (%)	11 (16.9)	18 (52.9)	11 (52.4)	16 (61.5)	53 (94.6)	$X^2 = 74.91$, $p < .001$	AS vs. RE/IM/LM/SR*** RE/IM/LM vs. SR***
Missing values	0	1	1	0	0		
Education (years), M (SD)	9.8 (4.3)	10.5 (5.3)	10.4 (5.5)	12.2 (4.1)	11.9 (2.3)	ns	
Missing values	2	1	0	1	0		
Number of children, M (SD)	1.2 (1.5)	1.4 (1.4)	.95 (1.5)	1.1 (1.5)	1.0 (1.3)	ns	
Missing values	0	0	0	0	0		

Characteristic	Groups					Overall group comparisons	Significant between-group differences
	AS (n = 65)	RE (n = 34)	IM (n = 21)	LM (n = 26)	SR (n = 56)		
Region of origin, n (%)	0	0	0	0	0	X^2 = 75.67, p < .000	
Missing values							
Asia	42 (64.6)	24 (70.6)	3 (14.3)	7 (26.9)	0 (0.0)		AS/RE vs. IM/LM/SR**
Europe	9 (13.8)	3 (8.8)	0 (0.0)	11 (42.3)	0 (0.0)		AS/RE vs. LM*** IM vs. LM*
Africa	14 (21.5)	6 (17.6)	8 (38.1)	3 (11.5)	0 (0.0)		
South America	0 (0.0)	1 (2.9)	10 (47.6)	4 (15.4)	0 (0.0)		AS/RE/SR vs. IM** IM vs. LM***
Switzerland	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	56 (100.0)		AS/RE/IM/LM vs. SR***
Time in Switzerland (years), M (SD)	3.7 (3.1)	8.2 (5.3)	5.0 (3.3)	12.3 (8.1)	39.4 (13.8)	H = 38.53, p < .000	AS vs. RE*** RE vs. IM* AS/IM vs. LM***
Missing values	1	0	0	0	0		
Family members in Switzerland, n (%)	33 (50.8)	21 (61.8)	7 (33.3)	18 (69.2)	56 (100.0)	ns	
Missing values	0	0	0	0	0		
High post-migration resources, n (%)	18 (28.1)	20 (60.6)	7 (33.3)	22 (88.0)	55 (98.2)	X^2 = 76.31, p < .000	AS vs. RE*** AS/IM vs. LM*** RE vs. IM/LM*
Missing values	1	1	0	1	0		
High social desirability, n (%)	34 (52.3)	15 (54.5)	10 (52.4)	12 (46.2)	13 (24.1)	X^2 = 12.81, p < .05	AS/RE/IM/LM vs. SR*
Missing values	5	1	0	0	0		
Traumatic event types, M (SD)	8.4 (5.5)	6.3 (6.2)	2.6 (4.2)	3.1 (3.0)	2.0 (2.2)	F = 14.77, p < .000	AS vs. IM/LM/SR*** RE vs. LM* RE vs. SR**
Missing values	0	0	0	0	0		

Note. AS = asylum seekers; RE = refugees; IM = illegal migrants; LM = labor migrants; SR = Swiss residents; *p<.05; **p<.01, ***p<.001

Table 2: Mental health outcomes

Symptomatology	Groups					Overall group comparisons	Significant between-group differences
	AS (n = 65)	RE (n = 34)	IM (n = 21)	LM (n = 26)	SR (n = 56)		
Probable diagnosis of PTSD, n (%)[a]	34 (54.0)	12 (41.4)	1 (5.6)	4 (17.4)	4 (7.5)	$X^2 = 38.9$, p < .001	AS vs. IM/SR*** AS vs. LM** RE vs. IM** RE vs. SR***
Missing values	2	2	2	3	3		
Clinically relevant depression, n (%)[b]	55 (84.6)	14 (42.4)	10 (47.6)	4 (17.4)	6 (10.7)	$X^2 = 75.1$, p < .001	AS vs. RE/IM/LM/SR*** RE/IM vs. LM* RE/IM vs. SR**
Missing values	0	1	0	3	0		
Clinically relevant anxiety, n (%)[b]	41 (63.1)	13 (39.4)	10 (47.6)	3 (12.5)	8 (14.3)	$X^2 = 38.3$, p < .001	AS vs. RE* AS vs. LM/SR*** RE vs. LM * RE vs. SR ** IM vs. LM/SR **
Missing values	0	1	0	2	0		

Note: AS = asylum seekers; RE = refugees; IM = illegal migrants; LM = labor migrants; SR = Swiss residents; PTSD = Posttraumatic Stress Disorder

[a] assessed using the Posttraumatic Diagnostic Scale; [b] assessed using the Hopkins Symptom Checklist-25; *p<.05; **p<.01, ***p<.001

Table 3: Logistic regression analysis for mental health outcomes

	Probable PTSD [a] (N = 190)				Clinically relevant depression[b] (N = 198)				Clinically relevant anxiety[b] (N = 199)			
Steps and variables	OR	95% CI	Wald	Nagel-kerke R^2	OR	95% CI	Wald	Nagel-kerke R^2	OR	95% CI	Wald	Nagel-kerke R^2
Step 1:				.011				.034				.001
Social desirability (high)	.95	.43-2.08	.02		1.12	.52-2.42	.08		.66	.32-1.35	1.32	
Step 2:				.253				.291				.189
Traumatic event types (number)	1.15*	1.03-1.28	6.46		1.16*	1.03-1.30	6.00		1.14*	1.03-1.26	6.23	
Step 3:				.271				.371				.199
Integration index (high)	.89	.36-2.23	.06		.84	.34-2.10	.14		.87	.38-2.02	.10	
Step 4:				.389				.502				.285
Group membership												
AS	10.88**	2.34-50.57	9.27		25.22***	6.20-102.71	20.30		6.48**	1.88-22.41	8.72	
RE	7.62**	1.74-33.37	7.27		4.47*	1.26-19.85	5.37		3.39*	1.05-10.93	4.17	
IM	.71	.06-8.37	.08		6.92**	1.68-28.57	7.15		5.62**	1.50-21.06	6.57	
LM	3.08	.61-15.18	1.87		1.70	.40-7.17	.52		.90	.21-3.89	.02	

Note: AS = asylum seekers; RE = refugees; IM = illegal migrants; LM = labor migrants; PTSD = Posttraumatic Stress Disorder; OR = odds ratio; CI = Confidence interval; [a] assessed using the Posttraumatic Diagnostic Scale; [b] assessed using the Hopkins Symptom Checklist-25; *p<.05; **p<.01, ***p<.001